

CLAIMS:

1. A method for ceramizing starting glass of glass-ceramics into glass-ceramics, comprising at least the following steps:
 - 1.1 the starting glass is heated from an initial temperature T_1 to a temperature T_2 which is disposed above the glass transformation temperature T_G at which crystallization nuclei are precipitated;
 - 1.2 the glass is held at the temperature T_2 for a period t_2 for the precipitation of crystallization nuclei;
 - 1.3 the glass is further heated to a temperature T_3 at which a crystal phase grows on the nuclei formed following step 1.1 and 1.2;
 - 1.4 the glass is held for a period t_3 at a temperature T_3 or heated during this period to a higher temperature T_4 until the predetermined properties of the glass-ceramics have been reached;
 - 1.5 the control of the temperature curve is performed with the help of a control loop comprising at least one temperature sensor for sensing the temperature and a heating unit as an actuator, wherein
 - 1.6 the heating unit comprises IR radiators for heating the glass to be relaxed with a thermal dead time of less than 10 secs., especially < 5 secs.
2. A method as claimed in claim 1, wherein the heating unit comprises IR radiators of a high color temperature.
3. A method as claimed in claim 2, wherein the IR radiators are short-wave IR radiators with a color temperature > 1,500°C, especially > 2,000°C, especially preferably > 2,400°C, even more preferably > 2,700°C.
4. A method as claimed in one of the claims 1 to 3, wherein the IR radiators of the heating unit comprise in a bordered space in a comprehensive manner reflective or backscattering boundary surfaces.
5. A method as claimed in claim 4, wherein the reflective or backscattering boundary surfaces comprise one or mixtures of several of the following materials: Al_2O_3 ; BaF_2 ; $BaTiO_3$; CaF_2 ; $CaTiO_3$; $MgO \cdot 3.5 Al_2O_3$; MgO ; SrF_2 ; SiO_2 ; $SrTiO_3$; TiO_2 ; quarzal; spinel; cordierite; cordierite sintered glass ceramics.
6. A method as claimed in one of the claims 4 or 5, wherein the bordered space is an IR radiation cavity.
7. A method as claimed in one of the claims 1 to 6, wherein the heating temperature to temperature T_2 is less than 120 secs., preferably less than 90 secs., and the temperature T_2 is less than 800°C.
8. A method as claimed in one of the claims 1 to 7, wherein the holding temperature t_2 at temperature T_2 is in the range of 60 secs. to 3,600 secs.
9. A method as claimed in one of the claims 1 to 8, wherein the heating time from temperature T_2 to temperature T_3 is less than 90 secs., preferably less than 60 secs., and the temperature T_3 is higher than 700°C.

10. A method as claimed in one of the claims 1 to 9, characterized in that the holding temperature t_3 at temperature T_3 and the heating time t_3 to temperature T_4 is in the range of 60 secs. to 1,800 secs.
11. A method as claimed in one of the claims 1 to 10, wherein the starting glass to be ceramized is held on a non-liquid base.
12. An apparatus for ceramizing a green glass, comprising at least
- 12.1 a heating unit;
- 12.2 a temperature sensor;
- 12.3 a closed-loop/open-loop control device for controlling the heating unit depending on the detected temperature and a predetermined temperature program, wherein
- 12.4 the heating unit comprises IR radiators for heating the glass to be relaxed with a thermal dead time of less than 10 secs., especially less than 5 secs.
13. An apparatus as claimed in claim 12, wherein the heating unit comprises IR radiators of a high color temperature.
14. An apparatus as claimed in claim 13, wherein the IR radiators are short-wave IR radiators with a color temperature of more than 1,500°C, especially more than 2,000°C, particularly preferably more than 2,400°C, and even more preferably more than 2,700°C.
15. An apparatus as claimed in one of the claims 12 to 14, wherein the IR radiators of the heating unit comprise in a bordered space in a comprehensive manner reflective or backscattering boundary surfaces.
16. An apparatus as claimed in claim 15, wherein the reflective or backscattering boundary surfaces comprise one or mixtures of several of the following materials: Al_2O_3 ; BaF_2 ; $BaTiO_3$; CaF_2 ; $CaTiO_3$; $MgO \cdot 3.5 Al_2O_3$; MgO ; SrF_2 ; SiO_2 ; $SrTiO_3$; TiO_2 ; quartz; spinel; cordierite; cordierite sintered glass ceramics.
17. An apparatus as claimed in one of the claims 15 or 16, wherein the bordered space is an IR radiation cavity.
18. An apparatus as claimed in one of the claims 12 to 17, wherein the apparatus comprises devices for storing the starting glass to be ceramized.

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